

A new species of the genus *Triaxomera* Zagulajev (Lepidoptera, Tineidae) from Japan

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Abstract *Triaxomera puncticulata* sp. nov. is described mainly on the basis of materials collected around decaying woods of *Fagus crenata* Blume at Mt Izumikatsuragi, southern Osaka Prefecture, Japan. The genus *Triaxomera* Zagulajev is new to the Japanese fauna. The adult morphological characters and brief biological notes are described.

Key words Tineidae, *Triaxomera puncticulata*, new species, Japan.

Introduction

Zagulajev (1959) established the genus *Triaxomera*, with type species *Tinea fulvimitrella* Sodoffsky, 1830, including small moths of conspicuous wing pattern of dark background and white spots. He separated this genus from heterogeneous *Nemapogon* Schrank on the basis of the spotted or cross-striped pattern on the forewings, the presence of 3 apical spinules on the tarsal segments and the absence of a digital process in the male genital valva.

According to Zagulajev (1964), the genus *Triaxomera* includes the most archaic members of the subfamily Nemapogoninae, which are distributed in the European USSR [Russia], Siberia, Caucasus, Transcaucasia, all of Europe, Mediterranean region and Asia Minor. Up to the present, the genus *Triaxomera* comprises 6 species: *T. fulvimitrella* (Sodoffsky, 1830), *T. parasitella* (Hübner, 1796), *T. caucasiella* Zagulajev, 1959, *T. baldensis* Petersen, 1983, *T. marsica* Petersen, 1984 and *T. kurilensis* Zagulajev, 1996. However, no *Torioxomera* species have hitherto been known from Japan.

In May 1999, we collected day-flying tineid moths around decaying woods of *Fagus crenata* Blume at Mt Izumikatsuragi, southern Osaka Prefecture, Japan. Examination of morphological characters of the species revealed that it is a new species belonging to the genus *Triaxomera*. This paper deals with the description and brief biological notes of the new *Triaxomera* species.

Terminology used in this paper mainly follows those of Zagulajev (1964) and Robinson and Nielsen (1993). The holotype and all the paratype specimens of the new species are preserved in Entomological Laboratory, Graduate School of Agriculture and Biological Sciences, Osaka Prefecture University.

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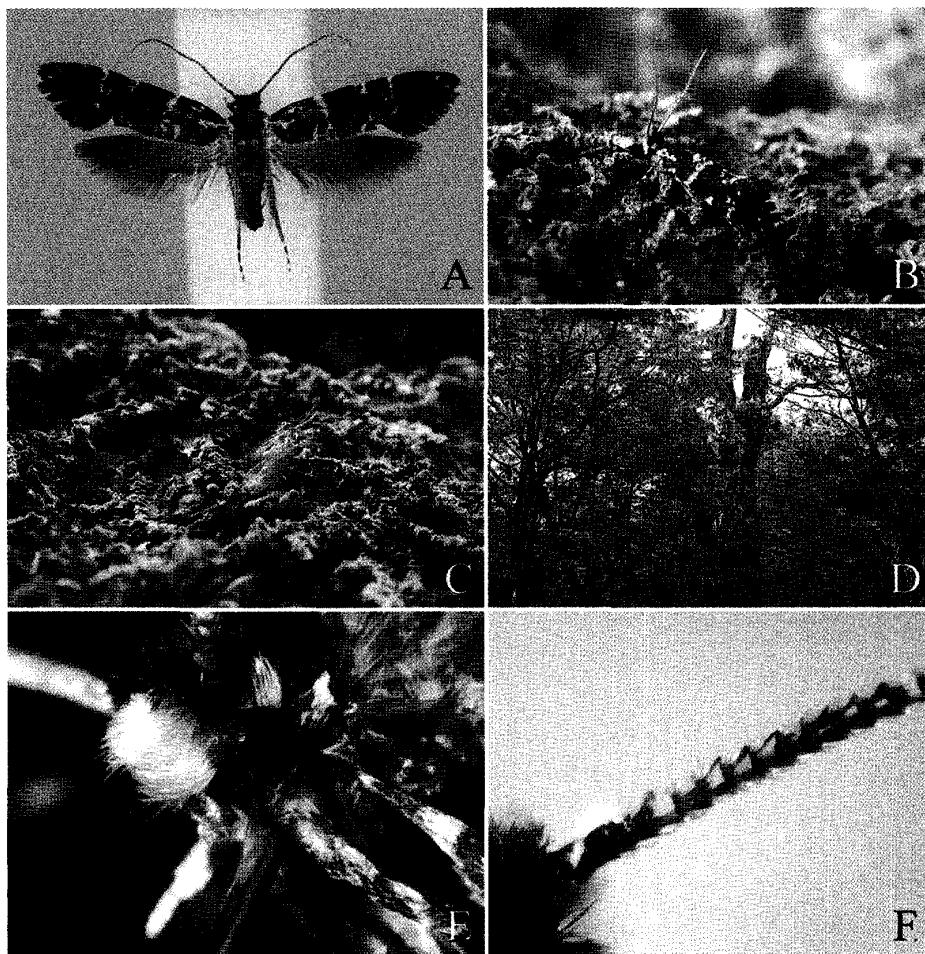


Fig. 1. *Triaxomera puncticulata* sp. nov. and its habitat. A. Holotype, ♂. B. Resting adult. C. A projecting exuvia left by emerged adult. D. Habitat. E. Head and thorax, lateral view. F. Flagellum.

***Triaxomera puncticulata* sp. nov. (Figs 1–5)**

Wing span 10–14 mm in male, 14–16 mm in female.

Head (Figs 1E–F, 2A, 3A). Vertex with black piliform scales, yellowish white behind the base of antennae near eye margins. Frons yellowish white, with transfrontal sulcus (Fig. 2A). Antenna 2/3 forewing length, black mixed with white; male flagellum with long sensilla (Fig. 3A); surface of flagellum with strong wrinkles and several rows of large sensillum sockets (Fig. 3A). Compound eye moderate in size with interocular index (Davis, 1975) 0.63–0.68. Maxillary palpus with white scales, slightly longer than labial palpus; 4th segment longest with short bristles; 5th short and apically sharp, bearing a short process at apical 1/4. Labial palpus subcylindrical and slightly curved dorsally; 2nd segment with black scales except distal part and with coarse long black bristles on ventral side; 3rd with white scales.

Thorax. Pro- and mesothorax black; tegula basally black and apically yellowish white. An elongate filiform bunch arising from ventral side of tegula. Forewing elongate, 4 times as long as wide excluding fringe; black with white irregular narrow transverse striae around basal 1/3, 1/2 and 2/3 of costa; 2–3 spots on dorsum running obliquely toward the costa; 2–

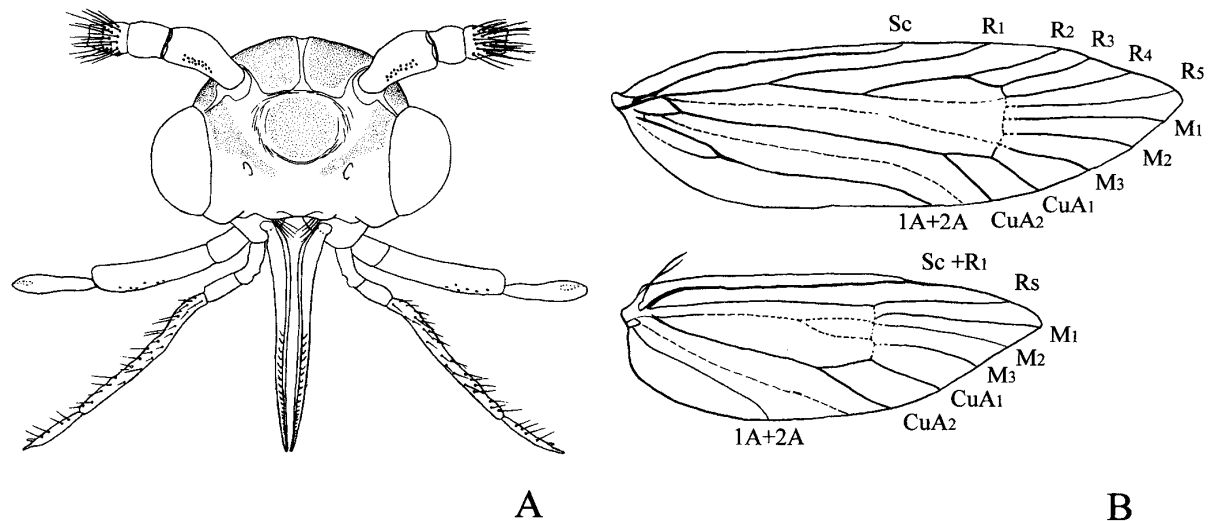


Fig. 2. *Triaxomera puncticulata* sp. nov. A. Head. B. Wing venation.

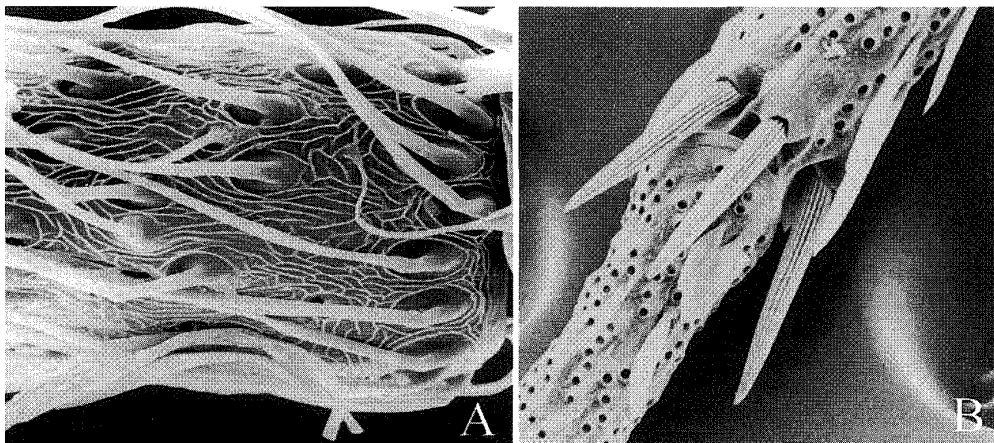


Fig. 3. *Triaxomera puncticulata* sp. nov. A. Flagellum. B. Fore- and midtibiae.

3 minute spots on apical area. Fringe same color as the wing, and 2 to 4 white spots. Veins R₄ and R₅ not approximated basally. Hindwing polish dark brown. M₁ reaching the outer margin of wing near apex (Fig. 2B). Leg with black scales; tibiae and tarsal segments with white rings apically.

Abdomen. Covered with oily black scales.

Male genitalia (Fig. 4). Tegumen and vinculum fused into a broad ring. Uncus broad basally and rounded apically. Gnathos geniculate. Saccus simple, laterally flattened, slightly curved dorsally. Valva broad, dorsal margin smooth; ventral margin bearing a short spatulate process. Aedeagus cylindrical, dorsoventrally flattened, weakly curved dorsally at apical 1/3.

Female genitalia (Fig. 5). Eighth sternite without median process and bearing long, thick bristles on posterior margin. Apophysis anterioris uncinated apically. Ductus bursae long, gradually broadened toward corpus bursae. Corpus bursae ellipsoidal; signum elongate wedge-shaped with a longitudinal groove, internally with dense cover of minute spines.

Holotype. ♂, [Honshu]: Osaka Pref., Mt Izumikatsuragi, 16. v. 1999 (T. Hirowatari).

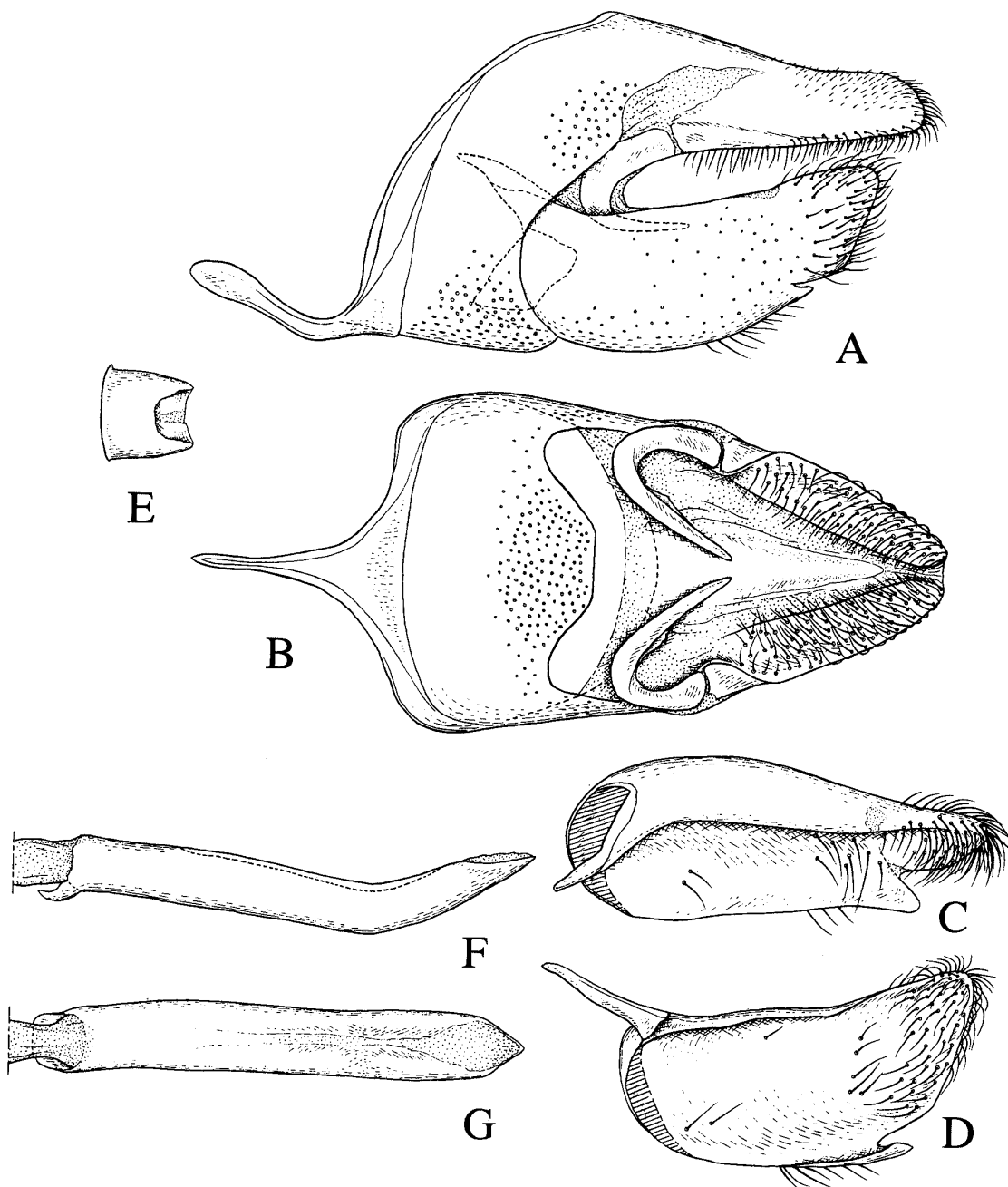


Fig. 4. Male genitalia of *Triaxomera puncticulata* sp. nov. A. Whole genitalia except aedeagus, lateral view. B. *Ditto*, ventral view. C. Valva, dorsal view. D. *Ditto*, internal view. E. Juxta, posterior view. F. Aedeagus, lateral view. G. *Ditto*, dorsal view.

Paratypes. 13 ♂ 1 ♀, same data as holotype; 6 ♂ 4 ♀, same locality, 18. v. 1999 (Y. Miyamoto); 3 ♂ 1 ♀, same locality, 18. v. 1999 (M. Yamamoto); 7 ♂ 1 ♀, same locality, 18. v. 2000 (Y. Miyamoto); 6 ♂ 2 ♀, same locality, 19. v. 2001 (Y. Miyamoto); 4 ♂ 45, same locality, 20. v. 2001 (Y. Miyamoto); 3 ♂ 3 ♀, Nara Pref., Mt Kojindake, 14. vi. 1978 (T. Yasuda). [Kyushu]: 1 ♂, Kumamoto Pref., Mt Mukozakayama, 11. x. 1996, (M. Sakai); 2 ♂, Kumamoto Pref., Izumi-mura, Shiibagoe, 20. iv. 1996 (M. Sakai); 1 ♀, Miyazaki Pref., Mt Mukosawa, 11. x. 1996 (M. Sakai).

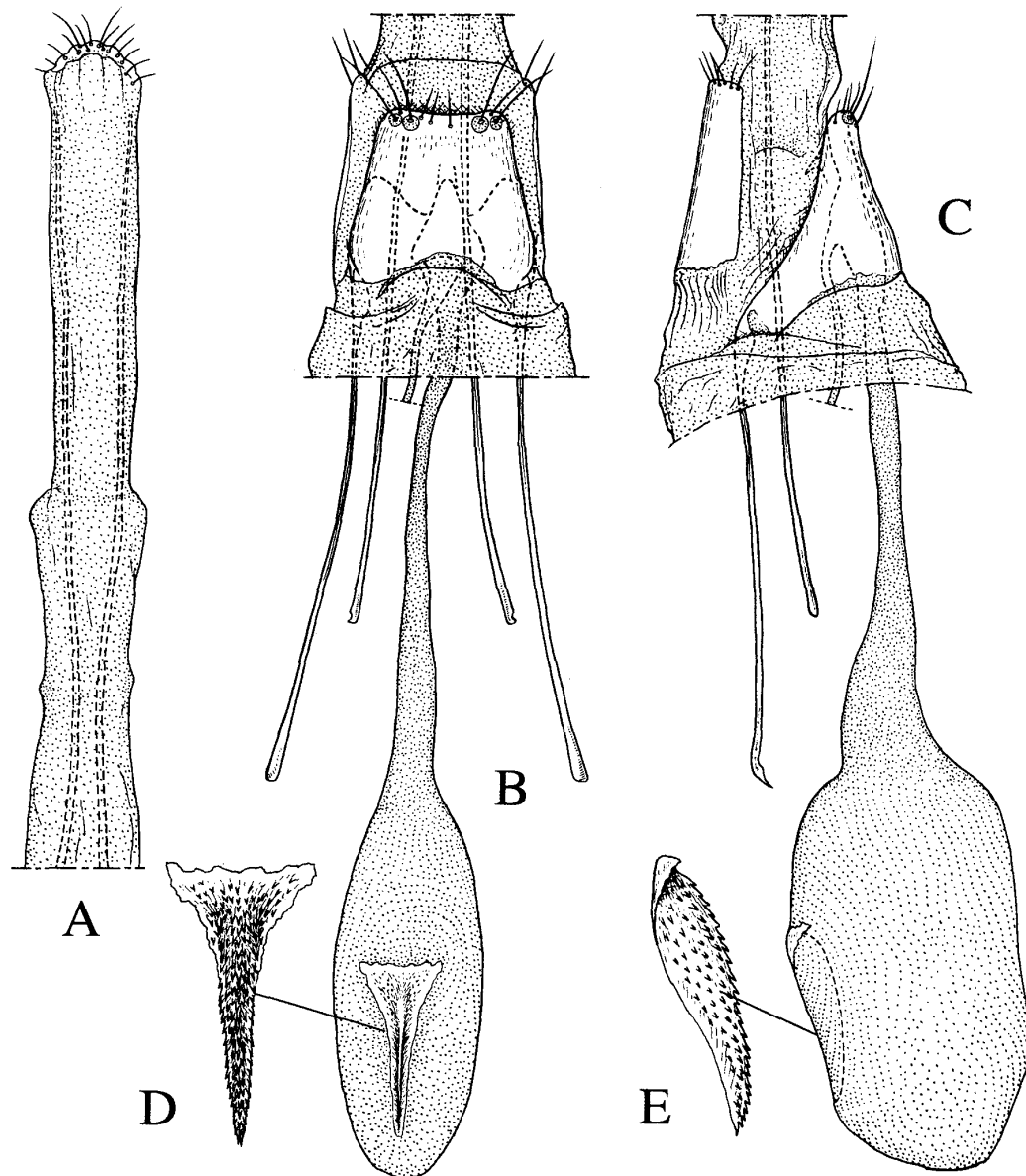


Fig. 5. Female genitalia of *Triaxomera puncticulata* sp. nov. A. Ovipositor, ventral view. B. Eighth segment and bursa copulatrix, ventral view. C. *Ditto*, lateral view. D. Signum, internal (dorsal) view. E. *Ditto*, internal (lateral) view.

Distribution. Japan (Honshu, Kyushu).

Biology. This species was collected at 820 m alt. in the deciduous forest of the northern slope of Mt Izumikatsuragi (857 m) where *Fagus crenata* Blume dominates. The moths were observed flying in middle to late May during 1999 and 2001. Most tineid adults are active at dusk or during the night, but many individuals of this species were observed running or sitting on decaying tree bark of *F. crenata* that was infested by a pore fungus (*Fomes fomentarius*), and sometimes actively flying around it in daytime. A pupal exuvia projecting from the surface of decaying bark indicates that larvae of this species feed on the decaying fungus-infested beech wood (Figs 1C–D) as it was reported in *Triaxomera fulvimitrella* (Sodoffsky) (Zagulajev, 1964). This species is rarely caught by the light trap.

Remarks. Judging from the forewing pattern and male genital structures, this species is

considered to be closely related to *T. fulvimitrella* (Sodoffsky). However, it is distinguishable from the latter by the difference of shape of valva and absence of coarse spines of inner dorsal margin of valva in the male genitalia. In the female, this species has a characteristic signum, which is similar to that of *T. caucasiella* Zagulajev.

Etymology. The Latin “*puncticulata*” refers to the small white spots of the forewing of the new species.

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摘 要

日本産 *Triaxomera* 属 (鱗翅目, ヒロズコガ科) の 1 新種 (宮本泰行・広渡俊哉・山本みゆき)

大阪府和泉葛城山のブナの立ち枯れなどから発生したヒロズコガを調べたところ, これまで日本から記録のなかった *Triaxomera* 属 (ミヤマヒロズコガ属: 新称) に含まれる種であることがわかった. *Triaxomera* 属はロシアから記載され, 現在までにヨーロッパなどの落葉樹林に生息する 6 種が知られるが, 本種はそのいずれにも該当せず, *Triaxomera* 属の新種であると判断した. そこで, 本種を *Triaxomera puncticulata* (シラホシミヤマヒロズコガ) と命名し, 成虫の形態を記載した.

Triaxomera 属は, 脚の各ふ節に 3 本の距を持つことや, 雄交尾器の valva は指状突起を持たないことなどで近縁の *Nemapogon* 属などと区別される. 本種の外見は本属の模式種である *T. fulvimitrella* に似るが, 前翅の白斑が小さいこと, 雄交尾器の valva の背方内壁に鋸歯を持たないこと, などの点で識別できる.

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